

NUMERIC READOUT

CAPTION MODULES

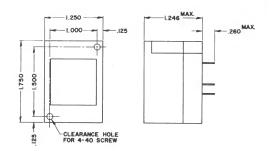


UP TO 4 MESSAGE AREAS

NEW SMALLER SIZE 711 SERIES



LARGE PLUS-MINUS SIGN



An auxiliary Module provides a back lighted transparency that displays Plus-Minus and explanatory captions. The lighted area may present a single message or it may be divided into 2, 3 or 4 areas that are individually switchable. A large Plus-Minus sign is a listed item. By employing four separate sections, the Plus and Minus signs may be presented one above the other, leaving two other areas for symbols or words. See Catalog Number 711–1855—____in the table below.

Whatever is displayed is seen through the same viewing window as the digital portion and is harmonious and of equal brightness.

Caption Modules provide great flexibility since the display is produced photographically from an original master layout.

Complete catalog numbers cannot be given for custom Caption Modules, since a suffix is necessary that identifies the special details. These formats are identified by their catalog numbers (with customer's 3 digit suffix blank).

Accessories: See Catalog L-188 for complete data.

LIGHTED DISPLAY AREA

TYPICAL CAPTION DISPLAY MODULES

| 711–1845– | 711–1885– |
|-----------|-----------|
| 711–1855– | 711–1895– |
| 711–1865– | 711–1905– |
| 711–1875– | 711–1915– |

Printed in U.S.A.

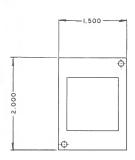
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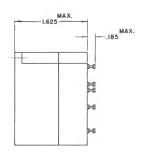


NUMERIC READOUT

CAPTION MODULES







LIGHTED DISPLAY AREA

1.2 H x 1.2 W.

Caption Modules, in combination with numeric displays, provide information on the data being read. All modules are identical in basic dimensions and may be placed in any position on the common mounting bracket. The captions are displayed through the single window, covering all modules.

Caption Modules provide four or six lamps, and are independently controlled so that up to six symbols or words may be shown selectively. The available lighted area may be subdivided into any arrangement of square or rectangular sections shown by the illustration.

The captions are on a transparency and are prepared photographically. Anything that may be drawn can be reproduced. Because of the custom nature of the captions, no complete catalog numbers can be shown. The incomplete catalog numbers for the caption formats are listed below with blank suffixes. A suffix number is assigned that is specific to the customer's usage and includes details of the caption and the operating voltage.

TYPICAL CAPTION DISPLAY MODULES

| 701–1844– | | 701–1884– | | 701–2244– |
|-----------|---|-----------|---|-----------|
| 701–1854– | | 701–1894– | | 701–2254– |
| 701–1864– | | 701–1904– | | 701–2264– |
| 701–1874– | H | 701–1914– | 围 | 701–2274– |
| | | 701–2444– | | |

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CATALOG SHEET



916 SERIES **PUSH BUTTON SWITCH**

(Formerly Series "P")

Switch Ratings S.P.S.T. Double break, N.O. 0.1 amp, 125V A.C.

0.1 amp, 30V D.C. (non-inductive)

Operating Force 10 ozs. (approx.)

Button Travel 5/64"

The 916 Series Push Button Switch (supersedes the P Series in catalog number only) has light action and requires short travel. The circuit is completed by a moving, flexible, bridging member meeting two stationary contacts. All contact parts are gold plated, assuring excellent contact with light pressure. Use is recommended for dry circuits or with low currents at higher voltages. Life is over 1 million operations at rated values.

MATERIALS AND FINISHES

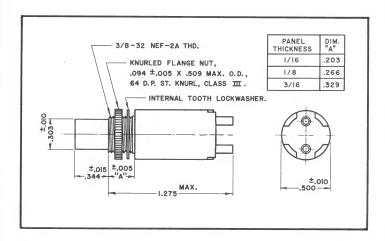
- Lens Cap: High strength plastic cap in a choice of 7 colors.
- Mounting Bushing (base assembly): Aluminum, black anodize finish; optional, clear anodize finish.
- Insulation: 1250V A.C. breakdown.
- Hardware: *Knurled flange nut—aluminum, black anodize finish; optional — clear anodize finish . . . Internal-tooth lockwasher—phosphor bronze, white nickel finish.
- **Terminals:** AMP "53" Taper Pin Receptacles or Double Turret (soldering)—gold plated.

SWITCH CHARACTERISTICS

- Momentary Action: The switch mechanism is of the "momentary" type. The circuit is normally open until the button is pushed. As long as pressure is maintained on the button, the circuit change is maintained. The push action is smooth—only light pressure is required.
- Circuit: single circuit, normally open.
- Contact Parts: gold plated.
- Completely enclosed: The switch action and contact parts are completely enclosed.

- **MOMENTARY CONTACT**
- **NORMALLY OPEN**
- GOLD PLATED CONTACT PARTS
- MOUNTS FROM BACK OF PANEL IN 3/8" CLEARANCE HOLE





CIRCUIT SCHEMATIC



(over)

(All illustrations are approx. actual size)

ORDERING INFORMATION

Each 916 Series Push Button Switch has a coded description. The following explanation of the code makes it easy to compose the catalog number which describes any desired indicator having a particular combination of selected features:

| EXA | MPLE: | Catalog No. ** 916 - | 1227 | - 15 | 7 1 | - 5 | 2 2 | 2 |
|--------------------------------|---|----------------------|------|------|-----|-----|-----|---|
| V V | Lens Cap Shape ——— Lens Cap Finish ——— Lens Cap Color ——— | | | | | | | |
| VIII | Panel Thickness —— Terminal Type ——— | | | | | | | |

| 11 | Circuit No. —1227 | ٧ | Lens Cap Color | VII | Panel Thickness |
|-----|---|----|--|------|---|
| 111 | Lens Cap Shape 15. Long cylindrical, smooth face and back | | 0. Black1. Red2. Green3. Amber4. Blue5. White | VIII | 1. 1/16" 2. 1/8" 3. 3/16" Terminal Type |
| IV | Lens Cap Finish 7. Translucent | VI | 6. YellowFinish5. Aluminum, black anodize finish.6. Aluminum, clear anodize finish. | | 2. AMP "53" Taper Pin Receptacle 3. Double Turret (Soldering) Other type terminals available on request |

^{**}Another series of normally open switches is available (917 Series) in which provision is made for one or more circuit elements. Normally closed switches (918 Series) can also be furnished with provision for one or more circuit elements. Additional information will be furnished on request.

WRENCH

*Wrench for No-Mar Mounting: The threaded round knurled nut used on this switch has a precise knurl of this specification: 64 D.P. ST. Knurl, Class III. For your convenience, DIALCO 506-0375 Wrench is offered to permit secure fastening of 916 Series Switches on mounting panels.

ENGRAVED and FILLED LEGENDS

(Digits, Letters or Symbols on Flat End Cylindrical Lenses)

SIZE OF TYPE FOR LEGENDS

| | Number of Characters | Character Height Nearest Fraction |
|---|-------------------------|--------------------------------------|
| | ONE | 11/64" |
| į | TWO | 7/64" |
| | THREE | 5/64" |

Unless otherwise specified these standard sizes will be provided in a uniform manner per order—i.e., the size of type will be determined by the largest legend in each individual order.

Standard: With amber, white or yellow lens cap—BLACK. With black, red, green or blue lens cap—WHITE. Optional colors: red, green or blue.

CURRENT DIALCO SWITCH LITERATURE

- L-169 Illuminated Push Button Switches: mount in 1/2" clearance hole; incandescent light sources.
- L-172 913 Series Illuminated Push Button Switch: mount in 3/8" clearance hole; neon light sources.
- L-173 922 Series Illuminated Push Button Switch: mount in 3/8" clearance hole; incandescent light sources.

CATALOG SHEET



922 SERIES ILLUMINATED PUSH BUTTON SWITCH

(Formerly Series "V")

| Switch Ratings | S.P.S.T. Double break, N.O. |
|-----------------|-----------------------------------|
| | 0.1 amp, 125V A.C. |
| | 0.1 amp, 30V D.C. (non-inductive) |
| Operating Force | 10 ozs. (approx.) |
| Button Travel | 5/64" |

The 922 Series Illuminated Push Button Switch (supersedes the V Series in catalog number only) has light action and requires short travel. The circuit is completed by a moving, flexible, bridging member meeting two stationary contacts. All contact parts are gold plated, assuring excellent contact with light pressure. Use is recommended for dry circuits or with low currents at higher voltages. Life is over 1 million operations at rated values.

Illumination of the transparent push button is obtained from a midget flanged base incandescent lamp, available in a range of voltages to 28V. The lamp seats in a metal insert in the lower end of the plastic push button. It may be readily replaced by removing the push button. A listing of the T-1¾ type lamps from which a choice may be made is shown in the table below. Note should be made of the availability of long life types of high reliability.

MANUFACTURER'S RATINGS

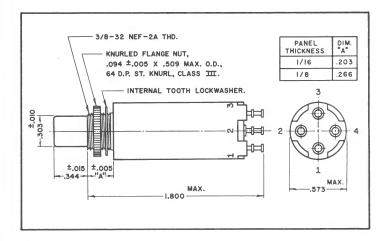
(Values given are approx.)

| LAMP NO. | VOLTS | AMPERES | HOURS | CANDLE- POWER |
|---|--|---|---|---|
| 331 338 375 *328 345 349 380 381 344 367 330 382 370 *327 **387 | 1.35 2.7 3.0 6.0 6.3 6.3 6.3 10.0 14.0 14.0 14.0 28.0 28.0 | .06 .06 .015 .20 .04 .20 .014 .04 .08 .08 .04 | 500 500 20,000 1,000 3,000 50,000 50,000 20,000 750 50,000 1,000 1,000 25,000 | .006 .04 .004 .63 .03 .555 .02 .40 .002 .08 .50 .30 .15 |

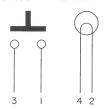
- *Conforms to MS25237.
- **MS18209 (BuShips)

- MOMENTARY CONTACT
- NORMALLY OPEN
- REPLACEABLE INCANDESCENT LAMP
- GOLD PLATED CONTACT PARTS
- MOUNTS FROM BACK OF PANEL IN 3/8" CLEARANCE HOLE





CIRCUIT SCHEMATIC



(over)

(All illustrations are approx. actual size)

922 SERIES ILLUMINATED PUSH BUTTON SWITCH CATALOG L-173A

MATERIALS AND FINISHES

- Push Button: High strength plastic cap in a choice of 6 colors.
- Mounting Bushing (base assembly): Aluminum, black anodize finish; optional, clear anodize finish.
- Insulation: 1250V A.C. breakdown.
- Hardware: *Knurled flange nut—aluminum, black anodize finish; optional—clear anodize finish . . . Internaltooth lock-washer—phosphor bronze, white nickel finish.
- Terminals: Amp "53" Taper Pin Receptacles or Double Turrent (soldering)—gold plated.

SWITCH CHARACTERISTICS

- Momentary Action: The switch mechanism is of the "momentary" type. The circuit is normally open until the button is pushed. As long as pressure is maintained on the button, the circuit change is maintained. The push action is smooth—only light pressure is required.
- Circuit: single circuit, normally open
- Contact Parts: gold plated
- Insulated: The switch circuit is insulated from, and independent of, the lamp circuit. The lamp connection is made to two silver plated brass terminals by coiled springs acting as flexible connections.
- Completely enclosed: The switch action and contact parts are completely enclosed.

WRENCH



*Wrench for No-Mar Mounting: The threaded round knurled nut used on this switch has a precise knurl of this specification: 64 D.P. ST. Knurl, Class III. For your convenience, DIALCO 506-0375 Wrench is offered to permit secure fastening of 922 Series Switches on mounting panels.

ORDERING INFORMATION

Each 922 Series Illuminated Push Button Switch has a coded description. The following explanation of the code makes it easy to compose the catalog number which describes any desired indicator having a particular combination of selected features:

| EXA | MPLE: | Catalog I | No.** | 922 | - | 1141 | - | 16 | 3 | 1 | - | 5 | 2 | 3 |
|------|---------------------|-----------|-------|-----|---|------|---|----|---|---|---|---|---|---|
| 1 | Series — | | | | | | | | | | | | | |
| 11 | Circuit No. | | | | | | | | | | | | | |
| Ш | Lens Cap Shape | | | | | | | | | | | | | |
| IV | Lens Cap Finish | | | | | | | | | | | | | |
| V | Lens Cap Color ——— | | | | | | | | | ┙ | | 1 | | |
| VI | Finish — | | | | | | | | | | | _ | | |
| VII | Panel Thickness ——— | | | | | | | | | | | | ╝ | |
| VIII | Terminal Type ——— | | | | | | | | | | | | | |

- II Circuit No. —1141
- III Lens Cap Shape
 - 15. Long cylindrical, smooth face and back.
 - 16. Long cylindrical, with internal Fresnel diffusing rings
- IV Lens Cap Finish
 - 3. Transparent
 - 7. Translucent

- V Lens Cap Color
 - 1. red
 - 2. green
 - 3. yellow (amber)
 - 4. blue
 - 5. white (translucent)
 - 7. clear (colorless)
- VI Finish
 - 5. Aluminum, black anodize finish.
 - 6. Aluminum, clear anodize finish.

- VII Panel Thickness
 - 1. 1/16" 2. 1/8"
- VIII Terminal Type
 - 2. AMP "53" Taper Pin Receptacle
 - 3. Double Turret (Soldering)
 Other type terminals available
 - Other type terminals available on request
- **Other illuminated push button switch series are available: **908 Series** provides normally open switch action with transistor driver circuit for control of the lamp; **920 Series**—similar to 922 Series except that space is provided for inclusion of components for custom circuitry. Additional information will be furnished on request.

ENGRAVED and FILLED LEGENDS

(Digits, Letters or Symbols on Flat End Cylindrical Lenses)
Cylindrical lenses can be engraved and filled with up to 3 digits of standard sizes, as follows:
1 DIGIT, 11/64" high (14 pt. type)...2 DIGITS, 7/64" high (10 pt. type)...3 DIGITS, 5/64" high (8 pt. type). These standard sizes of legends will be provided in a uniform manner per order—i.e., the size of type will be determined by the longest legend in each individual order.

Standard – BLACK; but white, red or green can be supplied to order.

CURRENT DIALCO SWITCH LITERATURE

- L-169 Illuminated Push Button Switches: mount in 1/2" clearance hole; incandescent light sources.
- L-172 913 Series Illuminated Push Button Switch: mount in 3/8" clearance hole; neon light sources.
- L-176 916 Series Push Button Switch-mount in 3/8" clearance hole.





913 SERIES ILLUMINATED PUSH BUTTON SWITCH

(Formerly Series "M")

Switch Ratings S.P.S.T. Double break, N.O.
0.1 amp, 125V A.C.
0.1 amp, 30V D.C. (non-inductive)

Operating Force 10 ozs. (approx.)

Button Travel 5/64"

The 913 Series Illuminated Push Button Switch (supersedes the M Series in catalog number only) has light action and requires short travel. The circuit is completed by a moving, flexible, bridging member meeting two stationary contacts. All contact parts are gold plated, assuring excellent contact with light pressure. Use is recommended for dry circuits or with low currents at higher voltages. Life is over 1 million operations at rated values.

Illumination of the transparent push button is obtained from à stationary and permanently mounted T-2 Neon Lamp. The neon lamp may be the standard brightness NE-2E or the high brightness NE-2H.

Lamp NE-2E is suitable for operation on D.C. at voltages as low as 105V and, with special selection, for still lower voltages. Reliable service is obtained on commercial 115 volt A.C. circuits.

Lamp NE-2H is recommended for 115V A.C. circuits where the lighting level must be higher. On equal life basis, the NE-2H lamp gives about ten times as much light as the NE-2E.

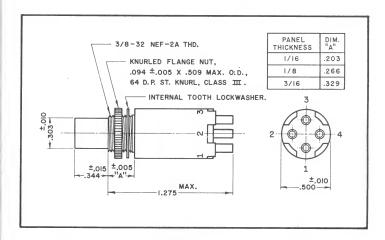
The integral resistor is included in the switch housing, but may be omitted if there is external means for limiting the lamp current. The following values are used internally and recommended. The lower value is used for best illumination and the higher value for long life. All values are for 110V to 125V circuit range. For NE-2E, the circuit may be A.C. or D.C. For NE-2H the circuit should be A.C. only.

NE-2E $\begin{array}{c} 56K-3,000 \text{ hours minimum} \\ 100K-10,000 \text{ hours minimum} \end{array}$

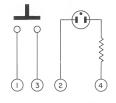
NE-2H 22K-5,000 hours minimum 33K-20,000 hours minimum

- MOMENTARY CONTACT
- NORMALLY OPEN
- NEON LAMP-NON-REPLACEABLE
- INTEGRAL RESISTOR
- GOLD PLATED CONTACT PARTS
- MOUNTS FROM BACK OF PANEL IN 3/8" CLEARANCE HOLE





CIRCUIT SCHEMATIC



See "Circuit Type" on reverse side.

(over)

(All illustrations are approx. actual size)

MATERIALS AND FINISHES

- Push Button: High strength plastic cap in a choice of 4 colors.
- Mounting Bushing (base assembly): Aluminum, black anodize finish; optional, clear anodize finish.
- Insulation: 1250V A.C. breakdown.
- Hardware: *Knurled flange nut—aluminum, black anodize finish; optional—clear anodize finish...Internal tooth lockwasher—phosphor bronze, white nickel finish.
- Terminals: AMP "53" Taper Pin Receptacles or Double Turret (soldering)—gold plated

SWITCH CHARACTERISTICS

- Momentary Action: The switch mechanism is of the "momentary" type. The circuit is normally open until the button is pushed. As long as pressure is maintained on the button, the circuit change is maintained. The push action is smooth—only light pressure is required.
- Circuit: single circuit, normally open.
- Contact Parts: gold plated.
- Insulated: The switch circuit is insulated from, and independent of, the lamp circuit.
- Completely enclosed: The switch action and contact parts are completely enclosed.

WRENCH



*Wrench for No-Mar Mounting: The threaded round knurled nut used on this switch has a precise knurl of this specification: 64 D.P. ST. Knurl, Class III. For your convenience, DIALCO 506-0375 Wrench is offered to permit secure fastening of 913 Series Switches on mounting panels.

ORDERING INFORMATION

Each 913 Series Illuminated Push Button Switch has a coded description. The following explanation of the code makes it easy to compose the catalog number which describes any desired indicator having a particular combination of selected features.

| EXAMPLE: | Catalog No. * | * 913 | - | 1152 | _ | 16 | 3 | 1 | - | 5 | 2 |
|---|---------------|-------|---|------|---|----|---|---|---|---|---|
| II Circuit No. (See opt III Lens Cap Shape — IV Lens Cap Finish — | | | | | | | | | | | |

I Circuit No.

1151 — NE-2E lamp — no resistor

1152 — NE-2E lamp — 56K resistor

1153 — NE-2E lamp — 100K resistor

1154 — NE-2H lamp — no resistor

1155 — NE-2H lamp — 22K resistor

1156 — NE-2H lamp — 33K resistor

III Lens Cap Shape

Lens Cap Finish

3. Transparent

15. Long cylindrical, smooth face and back

16. Long cylindrical, with internal Fresnel diffusing rings

V Lens Cap Color ***

1. red

3. yellow (amber)

5. white (translucent)

7. clear (colorless)

VI Finish

5. Aluminum, black anodize finish.

6. Aluminum, clear anodize finish.

VII Panel Thickness

1. 1/16"

2. 1/8"

3. 3/16"

VIII Terminal Type

2. AMP "53" Taper Pin Receptacle

3. Double Turret (Soldering)

Other type terminals available on request.

- **Another series of switches is available (906 Series) in which provision is made for more than one resistor. The combination of switch with neon lamps and its transistor driver is also made in a similar assembly (914 Series). Additional information will be furnished on request.
- ***Green and blue lens colors are not listed or recommended for use with Neon Lamps.

ENGRAVED and FILLED LEGENDS

(Digits, Letters or Symbols on Flat End Cylindrical Lenses)

SIZE OF TYPE FOR LEGENDS

| Number of Characters | Character Height Nearest Fraction |
|-------------------------|--------------------------------------|
| ONE | 11/64" |
| TWO | 7/64" |
| THREE | 5/64" |

Unless otherwise specified these standard sizes will be provided in a uniform manner per order—i.e., the size of type will be determined by the largest legend in each individual order.

Standard-BLACK; but white, red or green can be supplied to order.